

ANNALES ZOOLOGICI

Tom XVIII

Warszawa, 30 VIII 1959

Nr 10

Regina TROJANOWA-BAŃKOWSKA

**Uwagi o taksonomii dwóch europejskich gatunków
z rodzaju *Syrphus* FABR. (Diptera, Syrphidae)**

**К таксономии двух европейских видов рода *Syrphus*
FABR. (Diptera, Syrphidae)**

**Notes on the taxonomy of two European species of the
genus *Syrphus* FABR. (Diptera, Syrphidae)**

[With 13 text-figures]

This paper deals with a systematic analysis of two species of the genus *Syrphus* FABR.: *S. hilaris* ZETTERSTEDT and *S. venustus* MEIGEN. In addition to the external morphology, the structure of the genitalia of the males and of the oviscapt of the females has been studied.

S. hilaris ZETT. was described by ZETTERSTEDT in 1843. The allied species, *S. venustus* MEIG., was described earlier, in 1822, by MEIGEN. To distinguish these two species has presented many difficulties since the beginning. A comparison of the original descriptions of *S. hilaris* ZETT. and of *S. venustus* MEIG. shows that the chief character distinguishing these two species is the presence or absence of a blackish-brown middle facial stripe. Differences in the colour of the scutellum, given later in the description by ZETTERSTEDT, are in my opinion not significant, since in the case of both species forms are found showing either dark or light-coloured scutella.

Since the description of *S. hilaris* ZETT. both forms were regarded as distinct species for a considerable period of time (SCHINER, 1862; MALM, 1863; NEUHAUS, 1886). Later, however, KERTÉSZ (1910), in preparing his catalogue of the *Syrphidae*, synonymized *S. hilaris* ZETT. with *S. venustus* MEIG., and from this time onwards the majority of taxonomists (LUNDBECK, 1916; SACK, 1928—1932; COE, 1953) regarded *S. hilaris* ZETT. as a synonym, and some authors (SCHROEDER in coll.) as a variety of *S. venustus* MEIG.

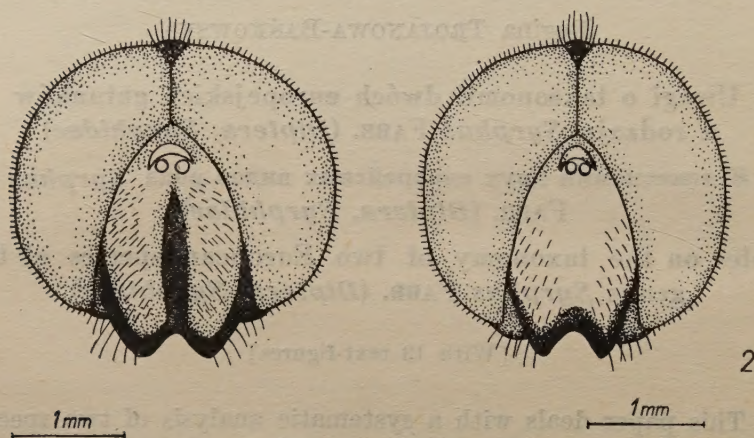


Fig. 1—2 — Head of male.

Fig. 1 — *S. venustus* MEIG. Fig. 2 — *S. hilaris* ZETT.

I was able to examine and dissect the following material: 19 specimens of *S. hilaris* ZETT., of which 6 ♂♂ and 1 ♀ from Latvia, 2 ♂♂ and 6 ♀♀ from Szczecin, 4 ♀♀ from Szklarska Poręba; 19 specimens of *S. venustus* MEIG., of which 8 ♂♂ and 2 ♀♀ from Pomorze, 1 ♂ and 2 ♀♀ from Central Poland, 1 ♀ from Szklarska Poręba, 4 ♂♂ and 1 ♀ from Latvia.

The above specimens of *S. hilaris* ZETT. differ externally from specimens of *S. venustus* MEIG. chiefly by the absence of a distinct black facial stripe [Fig. 1, 2]. In addition, the pubescence of the face of the females of *S. hilaris* ZETT. is whitish-yellow, and in the females of *S. venustus* MEIG. brownish-black. A dissection of the genitalia of the males of both species

shows great differences in the structure of these organs, the surstyli in *S. hilaris* ZETT. being narrower and more elongate than in *S. venustus* MEIG. [Fig. 3, 4]. The female terminalia of *S. hilaris* ZETT. and of *S. venustus* MEIG. were also examined, but no distinct differences were found either in the structure of the cerci, or of the tergites.

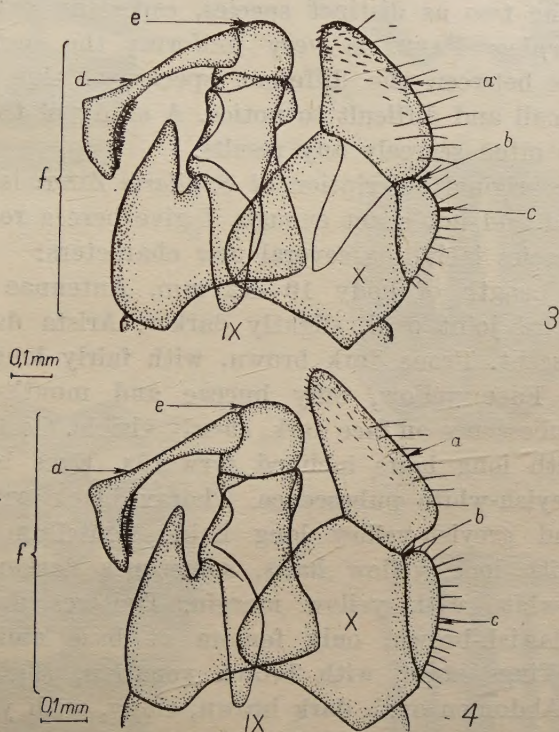


Fig. 3 — 4 — Genitalia of male. a — surstyli, b — anus, c — cerci, d — distiphallus, e — phallobasis, f — penis.

Terminology after TUXEN (1956).

Fig. 3 — *S. venustus* MEIG. Fig. 4 — *S. hilaris* ZETT.

In addition to morphological differences, there are also differences in the geographical distribution of these two species. *S. venustus* MEIG. is an European species found over an area extending from Southern France, Corsica and Italy to Finland

and Northern Sweden. The imago is common throughout Poland in spring. *S. hilaris* ZETT. is a boreo-alpine species, occurring throughout Scandinavia and in the Alps. In the collection of the Institute of Zoology of the Polish Academy of Sciences there are specimens taken by F. SINTENIS in Latvia, and by G. SCHROEDER at Szczecin and at Szklarska Poręba.

It seems that the above differences are sufficient for considering the two as distinct species, especially as the whole genus *Syrphus* FABR. is very uniform; the morphological differences between the different species of this genus are usually small and difficult to notice. A study of the genitalia gives also often scarcely any results.

As the original description of *S. hilaris* ZETT. is somewhat generalized and not exact enough, I give here a redescription of this species including several new characters:

Male. Length of body 10–12 mm. Antennae yellowish-brown, third joint oval, slightly darker. Arista dark brown, not pubescent. Frons dark brown, with fairly long dark pubescence. Face yellow, only buccae and mouth-edge dark brown. Pubescence on face dark, clearly visible. Ocellar triangle black, with long hairs inclined forwards. Eyes brown with short, greyish-white pubescence. Thorax black with metallic shine, and greyish-yellow long hairs. Scutellum yellowish-brown with long yellow hairs, sometimes darker. Thoracic squama white with yellow margin. Halteres dark yellow. Legs yellowish-brown, only femora at base and metatarsi darker. Wings large, with brown venation, slightly darker at base. Abdomen oval, dark brown, shiny, with yellow, relatively narrow spots on tergites, these spots extending to the very margin of the segments [Fig. 5]. Genitalia of normal size, pale brown, characterized by their narrow, elongate surstyli [Fig. 4].

Female. Third joint of antennae darker than in the male, with a distinct brown spot on the upper margin. Facial pubescence pale in colour. Frons fairly wide, black and shiny, with large grey dusted spots on the sides [Fig. 6]. Yellow spots on the tergites of the abdomen narrower than in the males [Fig. 7].

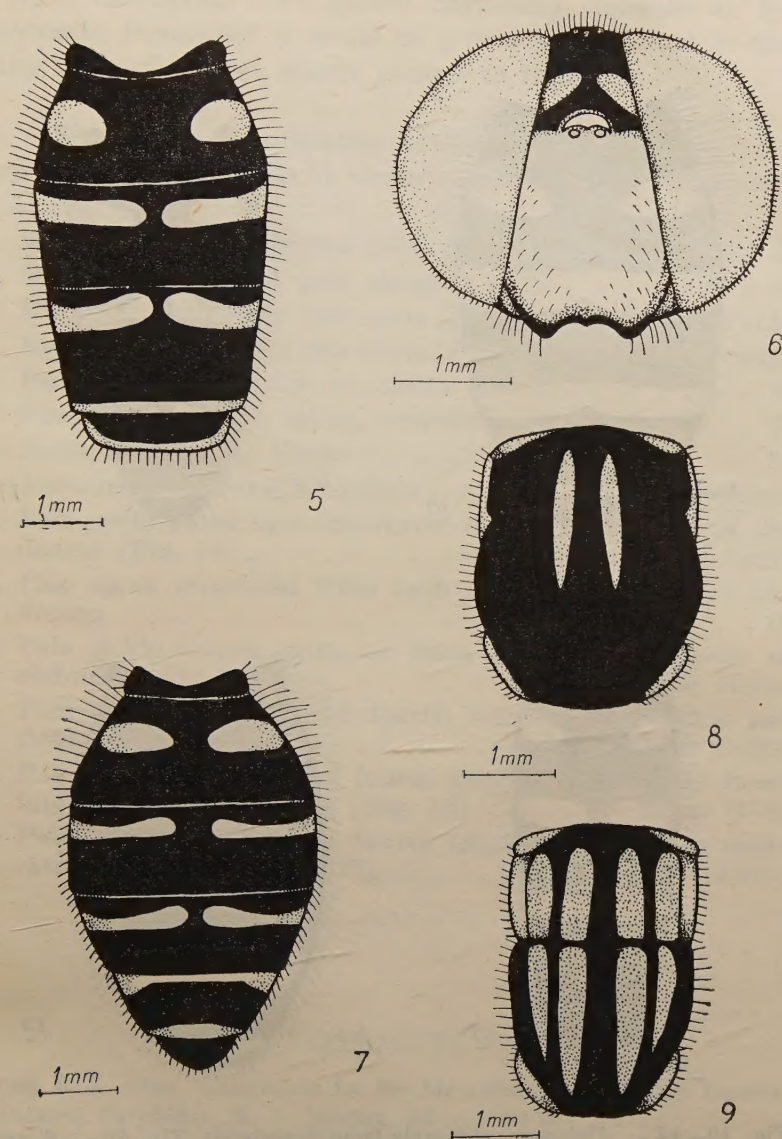
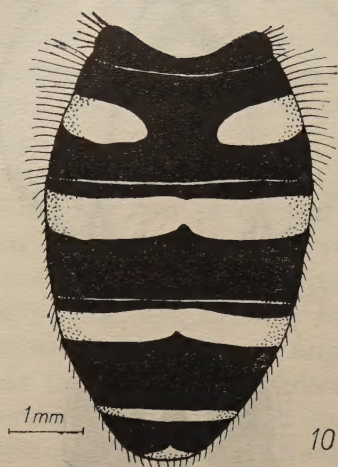
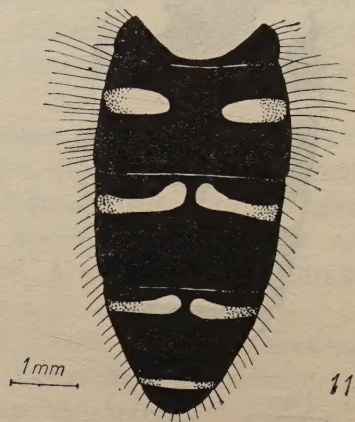


Fig. 5-9 — *S. hilaris* ZETT. Fig. 5 — Abdomen of male from dorsal side.
 Fig. 6 — Head of female. Fig. 7 — Abdomen of female from dorsal side.
 Fig. 8 — *S. albostratus* FALL. Mesonotum of female from dorsal side.
 Fig. 9 — *S. eggeri* SCHIN. Mesonotum of female from dorsal side.



10



11



12



13

Fig. 10—13 — Abdomen of female from dorsal side. Fig. 10 — *S. annulipes* ZETT. Fig. 11 — *S. lunulatus* MEIG. Fig. 12 — *S. macularis* ZETT. Fig. 13 — *S. torvus* O.-S.

As I distinguish here species previously regarded as synonymous, I consider it useful to give a key at least to the group of species most closely related to them.

Key to the identification of species of the genus
Syrphus FABR. allied to *S. venustus* MEIG. (eyes pubescent).

1. Mesonotum with distinct pale, elongate spots 2.
- Mesonotum without pale elongate spots 3.
2. Mesonotum with two pale spots [Fig. 8] *S. albostratus* FALL.
- Mesonotum with four pale spots [Fig. 9] . . . *S. eggeri* SCHIN.
3. Face with dark stripe in middle 4.
- Face without dark stripe, entirely pale coloured . . . 7.
4. Antennae entirely black 5.
- Antennae red or reddish-yellow *S. venustus* MEIG.
5. Pale spots fused into transverse stripes on tergites of abdomen [Fig. 10] *S. annulipes* ZETT.
- Pale spots separated from each other on tergites of abdomen 6.
6. Pale sickle-shaped spots on third and fourth tergites of abdomen [Fig. 11] *S. lunulatus* MEIG.
- Pale spots on third and fourth tergites of abdomen not sickle-shaped [Fig. 12] *S. macularis* ZETT.
7. Pale spots on third and fourth tergites of abdomen fused into a transverse stripe [Fig. 13] . . . *S. torvus* O.-S.
- Pale spots on third and fourth tergites of abdomen separated from each other [Fig. 5] *S. hilaris* ZETT.

LITERATURE

1. COE R. L. 1953. Handbooks for the identification of British Insects *Diptera, Syrphidae*. X, 1. London, 98 pp., 46 ff.
2. KERTÉSZ C. 1910. Catalogus Dipterorum hucusque descriptorum. *Syrphidae, Dorylaidae, Phoridae, Olythiidae*. VII. Budapest, 470 pp.
3. LUNDBECK W. 1916. *Diptera Danica*. Genera and species of flies hitherto found in Denmark. *Lonchopteridae, Syrphidae*. V. Copenhagen, 608 pp., 202 ff.
4. MALM A. W. 1863. Anteckningar öfver *Syrphici* i Skandinavien och Finland. Göteborg. Kongl. Vet. Handl. Göteborg, 8, pp. 1—81.

5. NEUHAUS G. H. 1886. *Diptera* Marchica. Berlin, 16+371 pp., 6 tt.
 6. SACK P. 1928—1932. *Syrphidae*. In: LINDNER E. „Die Fliegen der Paläarktischen Region”, 31, Stuttgart, 451 pp., 18 tt.
 7. SCHINER R. 1862. Fauna Austriaca. Die Fliegen (*Diptera*). I, Wien, 674 pp., 2 tt.
 8. TUXEN S. L. 1956. Taxonomist's glossary of genitalia in Insects. Copenhagen, 284 pp., 215 tt.
 9. ZETTERSTEDT J. W. 1842—1843. *Diptera* Scandinaviae disposita et descripta. 1—2, Lundae, 16+440 pp., 1 t., 2+441—894 pp.
-

STRESZCZENIE

W niniejszej pracy dokonano redeskrypcji gatunku *Syrphus hilaris* ZETT., opierając się na analizie budowy aparatu kopulacyjnego oraz na istotnych cechach morfologicznych zewnętrznych. Ponadto podano klucz do grupy pokrewnych gatunków z rodzaju *Syrphus* FABR.

РЕЗЮМЕ

В работе дается повторное описание вида *Syrphus hilaris* ZETT. на основании строения копуляционного аппарата и существенных внешних морфологических признаков, а также определитель для группы родственных видов рода *Syrphus* FABR.

Redaktor pracy — dr J. T. Nowakowski

Państwowe Wydawnictwo Naukowe — Warszawa 1959

Nakład 1600+125 egz. Ark. wyd. 0,5; druk. 0,5. Papier ilustr. kl. III, 80 g B1. Cena zł 6.—

Nr zam. 11/59.

Wrocławska Drukarnia Naukowa